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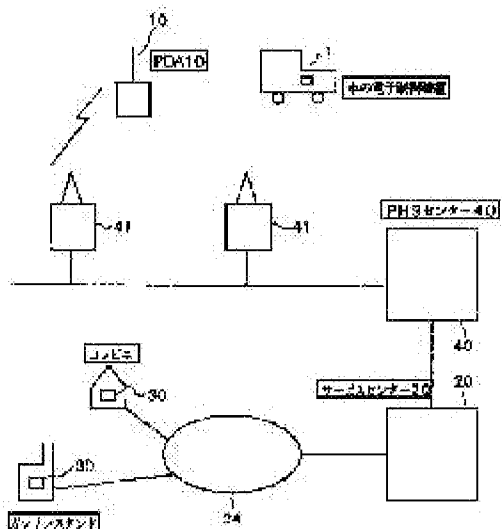
(54) DATA TRANSFER OUTPUT SYSTEM AND INFORMATION PROCESSING UNIT

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a data transfer output system which transfers document data or the like prepared by a personal digital assistant(PDA) to a printer installed at a shop designated by a user to allow the printer to print out the document data.

SOLUTION: Document data and position information (or information relating to a succeeding mobile location) prepared by a PDA 10 are transmitted to a service center 20 via a personal handy phone system(PHS) center 40 and the service center 20 selects information relating to a shop (a gas station in the case that a user is in a vehicle) being a print proposed location where a printer 30 is installed closer to the PDA 10 (or a succeeding moving location) than a database, transmits the information to the PDA 10 and the user designates the print location among the print proposed location displayed on the PDA 10 to

allow the service center 20 to transfer document data to the designated printer 30, where the document is printed out.



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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]In the printer installed in the various stores with which the area is dotted, this invention relates to the data transfer output system which makes possible the printout of the document data of a Personal Digital Assistant.

[0002]

[Description of the Prior Art]these days -- a time check -- a function, a scheduler function, a document composition facility, and communication functions (a PHS function, a facsimile function, etc.). PDA (Personal Digital Assistants) etc. which are the small Personal Digital Assistants provided with the function of ** begin to spread, and a user, It could carry out easily, without time and a place influencing creation of their schedule management and various kinds of information retrieval, or a document with a Personal Digital Assistant.

[0003]PDA is having communication functions, such as a PHS function and a facsimile function, and can also receive offer of the information from a network that the exchange of data with the external device provided with the communication function and various kinds of information are provided, etc. When a PHS function is used, the location registration function which carries out renewal registration of the own position is equipped.

The position information on PDA is supervised by the PHS service control office which is a key station by the side of PHS, and the position of PDA understands it.

[0004]

[Problem(s) to be Solved by the Invention]However, the printer with which small Personal Digital Assistants, such as PDA, usually carry out the printout of the data was not equipped, and even if it tried to have performed printouts, such as a document drawn up under movement and at a destination, it was not able to be performed easily.

[0005]Then, there is a technical problem of this invention in providing the possible data transfer output system of transmitting document data etc. to the printer installed in the store where a user specifies the document data etc. which were created in Personal Digital Assistants, such as PDA, and performing a printout.

[0006]

[Means for Solving the Problem]According to this invention according to claim 1, a data transfer output system, A Personal Digital Assistant which has a document composition facility and a communication function, and a monitor means which supervises position information on a Personal Digital Assistant, When a printer installed in various stores with which an applicable area is dotted, and which perform print service of data transmitting, a database which memorizes information about a position of a printer, document data created from a Personal Digital Assistant, and a printing demand are transmitted, Information about a store in which one or more printers which search a database based on position information on this Personal Digital Assistant from a monitor means, and serve as a candidate of a printing place are chosen as, and a selected printer is installed is transmitted to this Personal Digital Assistant, By having had a service center which makes document data transmitted from this Personal Digital Assistant by a printer selected based on the transmission content with this Personal Digital Assistant print, a user, When it is going to print a document etc. which were drawn up with a Personal Digital Assistant and document data created from a Personal Digital Assistant is transmitted to a service center, a service center, Search from a database a printing candidate place near a position of a Personal Digital Assistant for which it was suitable, transmit to a Personal Digital Assistant, and the search results a user, If a printing place is specified from a printing candidate place transmitted to a Personal Digital Assistant, a service center will be transmitted to a printer which had document data specified, and a printout of document data of it will become possible in the appointed printer. As a result, printouts, such as a document drawn up with a Personal Digital Assistant, become possible also in a destination or movement with this data transfer output system.

[0007]According to this invention according to claim 5, a data transfer output system, A Personal Digital Assistant which has a document composition facility, a communication function, a scheduler function, and a clock function, When a printer installed in various stores with which an applicable area is dotted, and which perform print service of data transmitting, a database which memorizes information about a position of a printer, document data created from a Personal Digital Assistant, and a printing demand are transmitted, Information about a store in which one or more printers which search a database based on attendant information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing place are chosen as, and a selected printer is installed is transmitted to this Personal Digital Assistant, By having had a service center which makes document data transmitted from this Personal Digital Assistant by a printer selected based on the transmission content with this Personal Digital Assistant print, a user, When it is going to print a document etc. which were drawn up with a Personal Digital Assistant and document data created from a Personal Digital Assistant is transmitted to a service center with attendant information, a service center, Search a printing candidate place in consideration of attendant information from a database, transmit to a Personal Digital Assistant, and the search results a user, If a printing place is specified from a printing candidate place transmitted to a Personal Digital Assistant, a service center will be transmitted to a printer which had document data specified, and a printout of document data of it will become possible in the appointed printer. As a result, printouts, such as a document drawn up with a Personal Digital Assistant in a printer setting position in consideration of a user's attendant information, become possible with

this data transfer output system.

[0008]

[Embodiment of the Invention] Hereafter, the details of the embodiment of the data transfer output system concerning this invention are explained, referring to a figure.

[0009][A 1st embodiment] in a 1st embodiment. PHS center 40 shall be applied as a device which supervises the position information on PDA10 for PDA10 as a Personal Digital Assistant (when there is PDA10 in the train, it may be made to grasp the position of PDA by the position information on GPS unit 3 in addition).

[0010] First, the composition of a 1st embodiment is explained.

[0011] Drawing 1 is the block diagram which indicated the outline composition of the whole data transfer output system concerning a 1st embodiment.

[0012] The data transfer output system concerning this embodiment, It consists of the base station 41 by the side of the network 24 which connects the electronic control 1 of a car, PDA10, the service center 20 and the printer 30 at the various stores which provide print service, PHS center 40, and the printer 30 and the service center 20, and PHS center 40, etc.

[0013] The electronic control 1 of a car is an electronic control about the portion concerning the embodiment of the invention of various kinds of electronic controls carried in the car, It is possible to be an electronic control which carries out supervisor control of GPS unit 3, to have an arithmetic processing function and a communication function in a short distance with PDA10 grade, and to perform PDA10 and data communications (the details of the electronic control 1 of a car are indicated to below-mentioned drawing 2).

[0014] PDA(Personal Digital Assistants) 10, With the small Personal Digital Assistant which the user who had communication functions, such as a controlling function (PIM function) of personal data, such as an entry of data and a document composition facility which can be created, a clock function, and a scheduler, and a PHS function, etc. by the keystroke or the pen input carries. It also has a communication function with the electronic control 1 of the car in a short distance (the details of PDA10 are indicated to below-mentioned drawing 3).

[0015] The service center 20 is provided with the database 23 of the information about the print service in the various stores in which the printer 30 with which the area is dotted was installed, and the store concerned, The printer 30 which was suitable according to the printing demand from PDA10 of a user is chosen, and a user transmits document data to the printer 30 concerned specified out of it, and makes the printer 30 print (the details of the service center 20 are indicated to below-mentioned drawing 4). The service center 20 creates code data and transmits to the both sides of PDA10 and the printer 30.

[0016] It is a device which the printer 30 is installed in the various stores (for example, a convenience store, a gas station, etc.) which provide the print service with which the area is dotted, and receives and carries out the printout of the print data from a user, At this time, the print data sent to PHS center 40 from PDA10, It is transmitted to the printer (or direct for not going) 30 via the service center 20 from PHS center 40 (at this time, code data is sent to PDA10 and the printer 30 from the service center 20, respectively). And the user who asked for print service pays a regular fee to the store concerned, and receives at it the document by which the printout was carried out. However, in creating code data, it checks in the case of delivery whether the code data (password etc.) which

the printer 30 and user side of PDA10 received from the service center 20, respectively is in agreement.

[0017]PHS center 40 is a PHS service control office used as the key station of the base station 41 installed in order to receive the electric wave from PDA10, [many] Via the base station 41 by which supervises the position information on PDA10 which is a Personal Digital Assistant with the location registration function which is one of the network functions of PHS, and distributed installation is carried out in the area, The received data from PDA10 are transmitted to the service center 20, and transmission or the data from the service center 20 is transmitted to PDA10 (however, it may be made to transmit print data to the printer 30 directly, without transmitting to the service center 20).

[0018]Drawing 2 is the block diagram which indicated the outline of the composition of the electronic control 1 of the car which is one of the components of the data transfer output system concerning this embodiment.

[0019]The electronic control 1 of the car comprises the memory storage 8, the communications department 9, etc. having CPU2, GPS unit 3, the indicator 4, the input part 5, RAM6, ROM7, and the storage 8a, and each of these components are mutually connected via the bus 1a.

[0020]CPU(Central Processing Unit) 2, The application program specified out of the various application programs corresponding to the system program memorized by the memory storage 8 and the system program concerned is stored in the program storage area in RAM6, The various directions or data inputted from GPS unit 3, the input part 5, and (passing the communications department 9) PDA10 is stored in RAM6, While performing various processing according to the application program stored in the memory storage 8 according to this input directions or input data and storing that processing result in RAM6, the send data of PDA10 is transmitted to the communications department 9.

[0021]GPS unit (Global Positioning System Unit) 3, With the device which receives the electric wave from a geostationary satellite (at least three or more) with the exclusive antenna installed in the car, and performs calculation of the position (longitude, latitude) of a car, calculation of the optimal route to the destination, calculation of the distance to the destination, etc. That computed result (this computed result is hereafter described as GPS information) is sent to CPU2, and CPU2 memorizes the data about the received computed result to RAM6. The GPS unit has attached the indicator which is an image display device which performs a CRT display and a LCD display, and usually displays it visually with the map etc. to which image display of the above-mentioned computed result was carried out on the screen. The above-mentioned computed result is transmitted to PDA10 by the communications department 9 if needed (to demand [10 / PDA]).

[0022]GPS unit 3 the very thing is provided with CPU for exclusive use, RAM, ROM, etc., and CPU2 sends only an arithmetic command or sending-out instructions of result-of-an-operation data to CPU for exclusive use, and it usually has composition which receives the result of an operation and is memorized to RAM6.

[0023]The indicator 4 is constituted by the image display device which performs a CRT display and a LCD display, and displays computed results, such as a position (longitude, latitude) of a car by GPS unit 3, optimal route to the destination, and distance to the destination.

[0024]The input part 5 is an input part which inputs the input of various data, such as initialization data to GPS unit 3, directions of the display switching in the indicator 4, etc.

[0025]RAM(Random Access Memory) 6 consists of a storage area which memorizes temporarily the various programs in which data processing is carried out by CPU2, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0026]The data about the GPS information (the position of a car, the optimal route to the destination, the distance to the destination, etc.) from GPS unit 3, etc. are temporarily memorized by RAM6.

[0027]ROM(Read Only Memory) 7 is read-only memory which reads the data stored by the directions from CPU2, and the exclusive program which processes the various data about the supervisor control of a car is memorized.

[0028]The memory storage 8 has the storage 8a with which a program, data, etc. are memorized, and this storage 8a is constituted by magnetic, an optical storage medium, or semiconductor memory. The memory storage 8 is equipped with the storage 8a, enabling the thing provided fixed or free attachment and detachment.

[0029]To this storage, the input process of the various application programs corresponding to a system program and the system program concerned and various data, communications processing, detection processing, the data processed with each processing program, etc. are memorized.

[0030]A program, data, etc. which are memorized to this storage 8, It may have composition received and memorized from other apparatus connected via the communication line etc., the memory storage which equipped with the above-mentioned storage further other apparatus side connected via the communication line etc. may be formed, and it may have program memorized by this storage and composition which uses data via a communication line.

[0031]The communications department 9 is a communication apparatus for performing communication (for example, infrared ray communication) in PDA10 and the short distance which a user carries, and transmits the signal (for example, signal of the contents that a transmitting agency is a car) which specifies a transmitting agency to PDA10.

[0032]Drawing 3 is the block diagram which indicated the outline of the composition of PDA(Personal Digital Assistants) 10 which is one of the components of the data transfer output system concerning a 1st embodiment.

[0033]PDA10 comprises the memory storage 17, the communications department 18, etc. having CPU11, PHS unit 12, the indicator 13, the clock part 14a, the input part 14b, RAM15, ROM16, and the storage 17a, and each of these components are mutually connected via the bus 10a.

[0034]CPU(Central Processing Unit) 11, The application program specified out of the various application programs corresponding to the system program memorized by the memory storage 17 and the system program concerned is stored in the program storage area in RAM15, PHS unit 12 and a time check -- PHS40 via the part 14a, the input part 14b, the electronic control 1 of a car (passing the communications department 18), and the base station 41. (Namely, service center 20) etc. -- from -- the various directions or data inputted being stored in RAM15, and, While performing various processing according to the application program stored in the memory storage 17 according to this input directions or input data and storing that processing result in RAM15, The data (document data, printing requested data, etc.) transmitted to the service center 20 is read

from RAM15, and is inputted into PHS unit 12. The send data to the electronic control 1 of a car is read from RAM15, and is inputted into the communications department 18.

[0035]PHS unit (Personal Handy-phone System Unit) 12, It is a device which transmits the data (document data, printing requested data, etc.) inputted from CPU11 from the miniaturized antenna 12a of an attachment with the electric wave gestalt based on the communications protocol of PHS to the external base transceiver station 41.

[0036]The indicator 13 is a device which displays the various data which is provided with the display screen in which a LCD display and a CRT display are possible, and is inputted from CPU11 by the display screen.

[0037]the clock part 14a -- a time check -- the information about the time which is the device provided with the function and is clocked being displayed in the indicator 13, and, When CPU11 performs input of the data (for example, data about a schedule, etc.) accompanied by time information, preservation, etc., the information about time is inputted into CPU11 from the clock part 14a, and CPU11 performs said operation based on the inputted time information.

[0038]The input part 14b comprises a display screen (it is almost the case that the display screen in this case is a display screen in the indicator 13) for performing various kinds of function keys and pen inputs, etc., By a keystroke or a pen input (handwritten character recognition with a pen is included), a keystroke and the signal by which the pen input was carried out are outputted to CPU11 with the input device which performs the data input about a schedule etc., the input of various kinds of search instructions, various kinds of setting inputs of PDA10, etc.

[0039]RAM(Random Access Memory) 15 consists of a storage area which memorizes temporarily the various programs in which data processing is carried out by CPU11, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0040]RAM15 -- the input directions or input data from the input part 14b -- and, The various data (code data is included) sent from service center 20 grade through PHS unit 12, a processing result, schedule data which CPU11 processed according to the program code read from the storage 17a, etc. are memorized temporarily.

[0041]ROM(Read Only Memory) 16 is read-only memory which reads the data stored by the directions from CPU2.

[0042]It has the storage 17a with which the memory storage 17, a program, data, etc. are memorized, and this storage 17a is constituted by magnetic, an optical storage medium, or semiconductor memory. The memory storage 17 is equipped with the storage 17a, enabling the thing provided fixed or free attachment and detachment.

[0043]To this storage, the data (schedule data are included) etc. which were processed with the various application programs corresponding to a system program and the system program concerned, display processing, communications processing, an input process, and each processing program are memorized.

[0044]A program, data, etc. which are memorized to this storage 17, It may have composition received and memorized from other apparatus connected via the communication line etc., the memory storage which equipped with the above-mentioned storage further other apparatus side connected via the communication line etc. may be formed, and it may have program memorized by this storage and composition which uses data via a communication line.

[0045]The communications department 18 is a communication apparatus for performing

communication (for example, infrared ray communication) in the communications department 9 and the short distance of the electronic control 1 of a car, When a user carries PDA10 and takes a car, PDA10 detects that the user rode in the car by the communications department 18 receiving the signal (for example, signal of the contents that it is a car) transmitted from the communications department 9 of the electronic control 1, and transmitting the received signal to CPU11.

[0046]Drawing 4 is the block diagram which indicated the outline of the composition of the service center 20 which is one of the components of the data transfer output system concerning this embodiment.

[0047]The service center 20 comprises the communication unit 21, the information retrieval device 22, the database 23, etc.

[0048]The communication unit 21 receives the document data transmitted through PHS center 40 from PDA10, and the data (position information by GPS unit 3 when it is in the train) about the position of PDA10, and inputs the received data into the information retrieval device 22. The data which the information retrieval device 22 searched, the created code data, etc. are transmitted to PDA10 or the printer 30 via the communication unit 21.

[0049]The information retrieval device 22 comprises CPU22a, RAM22b, ROM22c, the memory storage 22d that has the storage 22e, etc. inside, and each of these components are mutually connected via the bus 22f.

[0050]CPU(Central Processing Unit)22a, The application program specified out of the various application programs corresponding to the system program memorized by the memory storage 22d and the system program concerned is stored in the program storage area in RAM22b, The communication unit 21 and the database 23, the various directions ** inputted, or data is stored in RAM22b, While performing various processing according to the application program stored in the memory storage 22d according to this input directions or input data and storing that processing result in RAM22b, The data transmitted to PDA10 or the printer 30 is read from RAM22b, and is outputted to the communication unit 21.

[0051]CPU22a searches the database 23 based on the data about the position of PDA10 inputted via the communication unit 21, The information about the store in which the printer 30 near PDA10 (namely, user) was installed is extracted from the database 23 (at this time, when PDA10 is in the train, a gas station is extracted as a store), and the extracted data is outputted to the communication unit 21. If the communication unit 21 inputs the information about the printer 30 specified by the user who received from PDA10, code data, such as a password, will be created and document data and code data will be outputted to the communication unit 21.

[0052]RAM(Random Access Memory)22b consists of a storage area which memorizes temporarily the various programs in which data processing is carried out by CPU22a, data, etc., and memorized read-out of various programs, data, etc. is also performed.

[0053]The input data from the communication unit 21, the output data from the communication unit 21, the data in which CPU22a carried out search extraction from the database 23 according to the program code read from the storage 22e, etc. are temporarily memorized by RAM22b.

[0054]ROM(Read Only Memory) 16 is read-only memory which reads the data stored by the directions from CPU22a.

[0055]The memory storage 22d has the storage 22e with which a program, data, etc. are memorized, and this storage 22e is constituted by magnetic, an optical storage medium, or semiconductor memory. The memory storage 22d is equipped with the storage 22e, enabling the thing provided fixed or free attachment and detachment.

[0056]To this storage, the data etc. which were processed with the various application programs corresponding to a system program and the system program concerned, communications processing, an input process, retrieval processing, and each processing program are memorized.

[0057]A program, data, etc. which are memorized to this storage 22e, It may have composition received and memorized from other apparatus connected via the communication line etc., the memory storage which equipped with the above-mentioned storage further other apparatus side connected via the communication line etc. may be formed, and it may have program memorized by this storage and composition which uses data via a communication line.

[0058]The database 23 is a meeting of the data file in which the information about the print service in the various stores (for example, the convenience store and gas station of a neighboring area) in which the printer 30 which the service center 20 provides is installed, and an applicable store was integrated.

[0059]Drawing 5 is the figure which indicated the example of the file content stored in the database 23 of the service center 20.

[0060]A file content given in drawing 5 is the information about the print service in the various stores which install the printer 30 and provide print service, and the store concerned.

[0061]In the item of an output destination change, data concerning [the data about a store name] the address of the store concerned in the item of a place, A classification according [data concerning the fee per printed matter in the item of a fee] to the contents of operating of the store concerned in the item of a kind. (-- for example, the kind X -- a convenience store-related store and the kind Y -- a gas station-related store etc. --) -- data concerning [the related data] the business hours of the store concerned in the item of the utilization time is memorized, respectively.

[0062]For example, if it looks at concretely about the data of A store, the address of A store is x division xx2-1, printing fee gold is 10 yen per sheet, and it is classifying and carrying out 24-hour [of the contents of operating of a store] to the kind X (convenience store).

[0063]Next, an operation of this embodiment is explained.

[0064]Drawing 6 is the figure which indicated serially the exchange of the data between the printers 30 specified by PDA10, the service center 20, and a user until it receives the document printed after the user made the document by PDA10.

[0065]First, a user draws up a document by PDA10 (Step P1). And since the output request for printing the drawn-up document, i.e., a user, outputs a prepared document, when alter operation is performed (Step P2) and there is PDA10 in the train from the input part 14b of PDA10 at this time, GPS information is acquired from the electronic control 1 of a car (Step P3). And document data (they are also GPS data when PDA10 is in the train) is transmitted to the service center 20 via PHS center 40 (Step P4).

[0066]The service center 20 receives the data from PDA10 through the communication unit 21 (Step Q1), Based on the position information on PDA10 which received (it is

GPS information when PDA10 is in the train), the information retrieval device 22 searches the database 23, and chooses a printing candidate place (Step Q2). And the data about the selected printing candidate place is transmitted to PDA10 (Step Q3).

[0067]If a printing place is specified from the printing candidate place where PDA10 displays the printing candidate place received from the service center by the indicator 13 (Step P5), and the user is displayed, The data about the printing place specified from PDA10 is transmitted to the service center 20 (Step P6).

[0068]If the data about the specified printing place is received (Step Q4), the service center 20, The password as code data is calculated, for example based on the terminal number of PDA10 (Step Q5), document data and a password are transmitted to the printer 30 through a communication unit (Step Q6), and a password is transmitted to PDA10 (Step Q7). Composition which transmits document data to the printer 30 specified directly from PDA10 without the service center 20 at this time may be used.

[0069]The specified printer 30 receives document data and a password from the service center 20 (Step R1), and carries out the printout of the received document data (Step R2). PDA10 receives a password from the service center 20 (Step P7).

[0070]And at the store in which the specified printer 30 is installed, printed matter is passed to a user after checking a password (Step R3).

[0071]Drawing 7 is a flow chart of the subroutine performed when the service center 20 receives the document data (GPS data are included) from PDA10 and chooses the printing place candidate of document data.

[0072]The program which realizes each function indicated to this flow chart is memorized by the storage 22e of the information retrieval device 22 with the gestalt of the program code which CPU22a of the information retrieval device 22 of the service center 20 can read.

[0073]First, in Step S1, the present time is investigated and it shifts to Step S2. In Step S2, the store which is performing print service at the present time used as the output destination change of document data is selected, and it shifts to Step S3.

[0074]In Step S3, when the service center 20 distinguishes whether the data about GPS is received from PDA10 and the data about GPS is received, it shifts to step S4, and when the data about GPS is not received, it shifts to Step S5.

[0075]In step S4, when the data about GPS3 is received, Since there will be a user who is carrying PDA10 in the train, he gives priority to and retrieves the information about the store (gas station) of the kind Y which is performing print service in the database 23, and shifts to Step S6.

[0076]When the data about GPS3 is not received, in Step S5, the information about the store which is performing print service which is in the neighborhood in the database 23 is retrieved based on the position information on PHS, i.e., the position information in which a user is, and it shifts to Step S6 at it.

[0077]In Step S6, it is made the data configuration which arranges search results and can transmit to PDA10, and a return is carried out to a main flow.

[0078]As mentioned above, in a 1st embodiment, The document data (they are also GPS data when PDA10 is in the train) created in PDA10, Transmit to the service center 20 via PHS center 40, and the service center 20 selects the information about the store (a case in the train gas station) used as the printing candidate place in which the printer 30 near PDA10 is installed out of the database 23, The information is transmitted to PDA10. And

a user will transmit document data to the appointed printer 30 from the service center 20, if a printing place is specified out of the printing candidate place displayed on PDA10, and it becomes possible to perform a printout.

[0079][A 2nd embodiment] When choosing the printing place which serves as a candidate in the service center 20 based on the data sent from PDA10, in a 1st embodiment. Although the position information on PDA10 (information from GPS3 when [Or] it is in the train) was transmitted to the service center 20 together with document data from PDA10 and the printer 30 near the current position of PDA10 (user) was chosen, The information about move schedule places, such as a visiting place which becomes clear from a user's schedule memorized by PPDA10 in a 2nd embodiment, is sent to the service center 20 together with document data, In the service center 20, the printer 30 near the move schedule place was chosen.

[0080]Suppose that it is the same as that of a 1st embodiment except being related with the matter which chooses a printing candidate place based on the information about the move schedule place which becomes clear from a user's schedule.

[0081]Drawing 8 is the figure which indicated serially the exchange of the data between the printers 30 specified by PDA10, the service center 20, and a user until it receives the document printed after the user made the document by PDA10.

[0082]First, a user draws up a document by PDA10 (Step P'1). From the input part 14b of PDA10, since the output request for printing the drawn-up document, i.e., a user, outputs a prepared document, perform alter operation (Step P'2), and At and this time. The following schedule information presumed from current time is acquired from the schedule data memorized by RAM6 (Step P'3). And the data of the next move schedule place (for example, the following visiting place) which becomes clear from document data and a schedule is transmitted to the service center 20 via PHS center 40 (Step P'4).

[0083]Based on the data of the next move schedule place which received the data from PDA10 through the communication unit 21 (Step Q'1), and the information retrieval device 22 received, the service center 20 searches the database 23 and chooses a printing candidate place (Step Q'2). And the data about the selected printing candidate place is transmitted to PDA10 (Step Q'3).

[0084]If a printing place is specified from the printing candidate place where PDA10 displays the printing candidate place received from the service center by the indicator 13 (Step P'5), and the user is displayed, The data about the printing place specified from PDA10 is transmitted to the service center 20 (Step P'6).

[0085]If the data about the specified printing place is received (Step Q'4), the service center 20, The password as code data is calculated, for example based on the terminal number of PDA10 (Step Q'5), document data and a password are transmitted to the printer 30 through a communication unit (Step Q'6), and a password is transmitted to PDA10 (Step Q'7). Composition which transmits document data to the printer 30 specified directly from PDA10 without the service center 20 at this time may be used.

[0086]The specified printer 30 receives document data and a password from the service center 20 (Step R'1), and carries out the printout of the received document data (Step R'2). PDA10 receives a password from the service center 20 (Step P'7).

[0087]And at the store in which the specified printer 30 is installed, printed matter is passed to a user after checking a password (Step R'3).

[0088]Drawing 9 is a flow chart of the subroutine performed when the service center 20

receives the document data (the data about moving places, such as a visiting place of memory, is included in a schedule) from PDA10 and chooses the printing place candidate of document data (Step Q'2).

[0089]The program which realizes each function indicated to this flow chart is memorized by the storage 22e of the information retrieval device 22 with the gestalt of the program code which CPU22a of the information retrieval device 22 of the service center 20 can read.

[0090]The database 23 is searched with Step T1 based on the data about move schedule places, such as a visiting place which received from PDA10, and it shifts to Step T2, and in Step T2, it is made the data configuration which arranges search results and can transmit to PDA10, and a return is carried out to Step Q'3.

[0091]As mentioned above, in a 2nd embodiment, The document data created in PDA10 with the data about the next move schedule place which becomes clear from a schedule. Transmitting to the service center 20 via PHS center 40, the service center 20 selects the information about the store used as the printing candidate place in which the printer 30 near the next move schedule place is installed out of the database 23, and transmits the information to PDA10. And a user will transmit document data to the appointed printer 30 from the service center 20, if a printing place is specified out of the printing candidate place displayed on PDA10, and it becomes possible to perform a printout.

[0092]

[Effect of the Invention]According to the invention according to claim 1, a data transfer output system, The Personal Digital Assistant which has a document composition facility and a communication function, and the monitor means which supervises the position information on a Personal Digital Assistant, When the printer installed in the various stores with which an applicable area is dotted, and which perform print service of data transmitting, the database which memorizes the information about the position of a printer, the document data created from the Personal Digital Assistant, and a printing demand are transmitted, The information about the store in which one or more printers which search a database based on the position information on this Personal Digital Assistant from a monitor means, and serve as a candidate of a printing place are chosen as, and the selected printer is installed is transmitted to this Personal Digital Assistant, By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the printer selected based on the transmission content with this Personal Digital Assistant print, a user, When it is going to print the document etc. which were drawn up with the Personal Digital Assistant and the document data created from the Personal Digital Assistant is transmitted to a service center, a service center, Search from a database the printing candidate place near the position of a Personal Digital Assistant for which it was suitable, transmit to a Personal Digital Assistant, and the search results a user, If a printing place is specified from the printing candidate place transmitted to the Personal Digital Assistant, a service center will be transmitted to the printer which had document data specified, and the printout of document data of it will become possible in the appointed printer. As a result, printouts, such as a document drawn up with the Personal Digital Assistant, become possible also in a destination or movement with this data transfer output system.

[0093]According to the invention according to claim 5, a data transfer output system, The Personal Digital Assistant which has a document composition facility, a communication

function, a scheduler function, and a clock function, When the printer installed in the various stores with which an applicable area is dotted, and which perform print service of data transmitting, the database which memorizes the information about the position of a printer, the document data created from the Personal Digital Assistant, and a printing demand are transmitted, The information about the store in which one or more printers which search a database based on the attendant information transmitted from this Personal Digital Assistant, and serve as a candidate of a printing place are chosen as, and the selected printer is installed is transmitted to this Personal Digital Assistant, By having had the service center which makes the document data transmitted from this Personal Digital Assistant by the printer selected based on the transmission content with this Personal Digital Assistant print, a user, When it is going to print the document etc. which were drawn up with the Personal Digital Assistant and the document data created from the Personal Digital Assistant is transmitted to a service center with attendant information, a service center, Search the printing candidate place in consideration of attendant information from a database, transmit to a Personal Digital Assistant, and the search results a user, If a printing place is specified from the printing candidate place transmitted to the Personal Digital Assistant, a service center will be transmitted to the printer which had document data specified, and the printout of document data of it will become possible in the appointed printer. As a result, printouts, such as a document drawn up with the Personal Digital Assistant in the printer setting position in consideration of the user's attendant information, become possible with this data transfer output system.

[Translation done.]